

REMARKS/ARGUMENTS

This Amendment is submitted in reply to the First Office Action dated December 30, 2008. The Applicants respectfully request reconsideration and further examination of the patent application under 37 C.F.R. § 1.111.

Summary of the Examiner's Rejections

Claims 33-64 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Naden (US 7,184,703) in view of Gilhousen (US 6,239,748).

Claims 34, 36, 37, 53, 54, 61 and 62 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Naden (US 7,184,703) in view of Gilhousen (US 6,239,748) and further in view of Sim (US 7,236,591).

Claims 38-43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Naden (US 7,184,703) in view of Gilhousen (US 6,239,748) and further in view of Kostusiak, et al. (US 5,115,224).

Claims 44-49 and 59 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Naden (US 7,184,703) in view of Gilhousen (US 6,239,748) and further in view of Applicant's admitted prior art.

Claims 56 and 54 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Naden (US 7,184,703) in view of Gilhousen (US 6,239,748) and further in view of Khorram (US 7,130,601).

Claim 51 was objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Summary of Amendment

Applicants have added new independent Claim 65. No new subject matter has been added.

Remarks regarding objected claim

Claim 51 was objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have added a new independent Claim 65 which includes the limitations of base Claim 33 and objected Claim 51. Accordingly, Applicants respectfully requests the withdraw of this objection and allowance of new independent Claim 65.

Remarks regarding § 103(a) rejections

Applicants respectfully submit that Naden and Gilhousen or any combination thereof fails to teach or suggest the present invention as recited in pending independent Claim 33. The amended independent Claim 33 is as follows:

33. A wireless relay based network, comprising:
a first node;
at least one relay station; and
a second node;
wherein said first node communicates with said second node via said at least one relay station, wherein each relay station is operative to:
receive a digital communication from said first node;
compute a plurality of reliability values for a plurality of symbols in the received digital communication; and,
transmit a digital communication that has the computed reliability values embedded therein to said second node (emphasis on main distinguishing limitation).

The teachings of Naden and Gilhousen differ significantly from the present invention recited in amended independent Claim 1. In particular, Naden and Gilhousen or any combination thereof fail to disclose or suggest the claimed "compute a plurality of reliability values for a plurality of symbols in the received digital communication" (emphasis added). In the Office Action, the Examiner cited the following text in Naden to reject this particular claimed limitation:

Referring now to FIGS. 1 to 4 and 6 to 8, each relay equipment (12 16) that receives one or more uplink signals from one or more source mobile terminals (2,

8) determines the Signal to Interference and Noise Ratio (SINR) of the received signal from each of the source mobile terminals (2, 8) [Box A of FIG. 7 and Box F of FIG. 8]. As shown in FIG. 1, the relay equipments (12 14) include a signal processor (18) for measuring and storing the SINR for uplink signals received from the or each of the source mobile terminals (8). An approximation to the SINR may be used, such as the Carrier to Interference and Noise Ratio (CINR) or the received signal strength.

(see col. 6, lines 29-39 in Naden).

Naden discloses where the relay station determines a SINR for the uplink signal received from a source mobile terminal. Thus, Naden's relay station only computes a SINR for the uplink signal and does not disclose or suggest the claimed relay station that computes a plurality of reliability values for a plurality of symbols in the received digital communication. Gilhousen does not cure this defect. To establish a *prima facie* case of obviousness, the Examiner needs to explain how "the prior art reference (or prior art references) teaches or suggests all of the claim limitations" (see MPEP 2142). This was not done in this case. As a result, Applicants respectfully request the allowance of pending independent Claim 33 and it's associated dependent Claims 34-51.

Furthermore, Applicants on other grounds respectfully traverse the rejection of pending independent Claim 33 in view of the combination of Naden and Gilhousen. In the Office Action, the Examiner indicated that the primary reference Naden failed to explicitly teach that the reliability information is transmitted to the second node (see page 2 in the Office Action). To correct this defect, the Examiner cited Gilhousen and stated the following:

Gilhousen teaches a method and system for determining the position of a mobile radio whereby a base station that received a signal from a mobile station, amplifies and demodulates the signal and provides [sic] a receive signal strength indicator (RSSI) to a controller. The controller then relays the RSSI signal along with other signals to the MTSO for use in the calculation of the mobile station's position [Column 6, lines 31-38; i.e., embedding a reliability value (RSSI) in the relayed signal]. **Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of Gilhousen into the relay system of Naden in order for the receiving node to decide whether to process the relayed signal or not.**

(see pages 2-3 in the Final Office Action)(emphasis added)

The Examiner's motivation to modify Naden is based on the need to enable "the receiving node to decide whether to process the relayed signal or not". This motivation does not make sense. Naden discloses a relay equipment that receives one or more signals from one or more source mobile terminals, determines the SINRs of the received signals from each of the source mobile terminals, and then determines based on the SINRs which of the received signals to relay to a destination node (e.g., see col. 2, lines 36-42, col. 6, line 29 - col. 7, line 54, claim 1 in Naden). However, there is no hint or motivation that would cause one skilled in the art modify Naden's destination node (receiving node) such that it would use "old" SINRs to decide whether or not to process the relayed signal. This is because it would be superfluous to have both the relay equipment and the destination node process the same signals using the same "old" SINRs. In particular, there is no need for Naden's destination node to use "old" SINRs to process relayed signals where the "old" SINRs are based on the signals received at the relay equipment and have nothing to do with the SINRs of the signals received at the destination node. In effect, the proposed modification would only add unnecessary and unneeded complications to Naden and in such a situation there would be no motivation or desirability to combine Naden and Gilhousen (see MPEP 2143.01). As a result, Applicants respectfully request the allowance of pending independent Claim 33 and it's associated dependent Claims 34-51.

Referring now to independent Claim 52, Applicants respectfully submit that Naden and Gilhousen or any combination thereof fails to teach or suggest the present invention as recited in independent Claim 52. The independent Claim 52 is as follows:

52. A relay station operative to provide communications between a first node and a second node, said relay station operative to:
receive a coded/modulated digital communication from said first node;
compute a plurality of reliability values for a plurality of symbols in the received coded/modulated digital communication; and.

transmit a coded/modulated digital communication that has the computed reliability values embedded therein to said second node (emphasis added).

As can be seen, the independent Claim 52 recites limitations which are similar to the aforementioned distinguishing limitations recited in independent Claim 1, and as such the aforementioned remarks regarding the patentability of independent Claim 1 apply as well to independent Claim 52. Thus, Applicants respectfully submit that independent Claim 52 and its associated dependent Claims 53-59 are patentable in view of Naden and Gilhousen or any combination thereof.

Referring now to independent Claim 60, Applicants respectfully submit that Naden and Gilhousen or any combination thereof fails to teach or suggest the present invention as recited in independent Claim 60. The independent Claim 60 is as follows:

60. A method for enabling a relay station to provide reliable digital communications between a first node and a second node, said method comprising the steps of:
receiving, at said relay station, a digital communication from said first node;
computing, at said relay station, a plurality of reliability values for a plurality of symbols in the received digital communication; and,
transmitting, at said relay station, a digital communication that has the computed reliability values embedded therein to said second node (emphasis added).

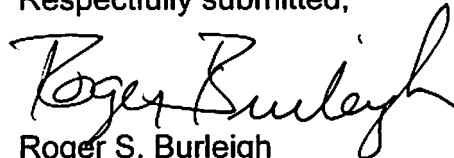
As can be seen, the independent Claim 60 recites limitations which are similar to the aforementioned distinguishing limitations recited in independent Claim 1, and as such the aforementioned remarks regarding the patentability of independent Claim 1 apply as well to independent Claim 60. Thus, Applicants respectfully submit that independent Claim 60 and its associated dependent Claims 61-64 are patentable in view of Naden and Gilhousen or any combination thereof.

Conclusion

Applicants respectfully submit that all of the stated grounds of rejections have been properly traversed, accommodated, or rendered moot. Accordingly, Applicants respectfully request reconsideration of all outstanding rejections and the allowance of the pending Claims 33-65.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Roger Burleigh", written in a cursive style.

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